

Date: Thu, 28 Jul 94 04:30:30 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #213
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 28 Jul 94 Volume 94 : Issue 213

Today's Topics:

 1750 meter band
 HISTORY OF 50 OHM COAX (2 msgs)
 MGF1200
 Super CMOS keyer 2, Source code?
 What is this HP Thinkjet IC ?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 27 Jul 1994 21:58:06 GMT
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa
Subject: 1750 meter band
To: ham-homebrew@ucsd.edu

There were some questions about the 1750M band; here's some info
about that band as provided by ham-server@grafex.sbay.org.

Jeff NH6IL
jeffrey@math.hawaii.edu

*****begin included text*****

----- cut here -----
>Subject: SUMMARY: Yes there is a 1750 Meter band
>Date: Sun, 07 Jun 1992 21:30:26 -0700
>Lines: 145

Organization: Employer not involved in this.

As requested by several people, here is a collection of highlights of the replies I recieved to "Does 1750 meters really exist". It looks like one of the replies was from a FAQ list, but since I got several requests to summarize, I'll go ahead and consume the bandwidth.

Many thanks to all that took the time to reply. And many thanks to all those who caught the error in my .sig. I guess I'll go listen to the tapes some more :-).

Thanks again.

73s,
jerryyp@key.amdahl.com
KC6RT0

>From alan@dsd.es.com Wed Jun 3 06:43:44 1992
(K6X0)

...yes, Virginia, there is a real citizen's band between 160 and 190 KHz. The limitations are: one watt output power, and the antenna can be no longer than 50 feet including the feedline. There are some serious experimenters using the band for propagation studies and so on, but there is lots of room for CW signals. You may hear several beacons operating there 24 hours a day. There is a newsletter, but I do not know who publishes it. Other than the power and antenna restrictions, as far as I know anything goes. To my knowledge there is no commercially made equipment available for this band - virtually everyone builds their own transmitters, and most of the modern receivers will tune down on that band. I listen there once in a while with my TS-930 but have never been interested in transmitting there. Good luck.

(KC6WUG)

...FCC part 15 (no license) 1750 meter band: 160-190 KHz. 1 watt max input power. 15 meter maximum lenght of antenna + feedline. With those power and antenna restrictions you don't get much range.

>From jkearman@arrl.org Fri Jun 5 07:55:06 1992

(KR1S) ^^^^
 |----- (AhHA! - So much for the benign neglect theory --
JRP)

JP: Well, shucks. We have run articles about this band in the past.
I guess we should do it again. The band runs from 160-190 kHz. You're
allowed 1-watt output, total length/height of antenna including
feed line is 50 ft (max allowed by law). Most folks put the xmtr
right at the base of the antenna.

You can join the Longwave Club of America, which was organized in
1974 to promote DXing and experimentation on frequencies below
550 kHz and activity on the 1750 meter band. Membership in the
LWCA and a one-year subscription to The LOWDOWN is \$12.00 by
First Class Mail. Please make all remittances payable to the
Longwave Club, and mail to LWCA, 45 Wildflower Rd., Levittown,
PA 19057. [Direct quote from the LOWDOWN]

(See, we READ it here!)

The LOWDOWN is published monthly. Good luck and 73,

>From: pdh@netcom.com (Phil Howard)
 (KA9WGN)

Depending on your effective bandwidth, you can extend it. I've read
about very slow digital going something like 1000 to 2000 km.

As promised, here's the summary of the information I requested
from the net a couple weeks ago regarding the 1750 meter band.

Does one need a license to operate on this band? No. This means that
you can choose your own callsign although callsigns are not required.

What is this band for? Experimentation mainly. It is especially fun to
attempt QRP operation and one respondent said that given the right type
of modulation and antenna setup, signals can travel 1000 miles or more
with just under one watt output! Lots of folks use CW beacons and there is
a radio club called The Lowfers (Low Frequency Users, presumedly). Be
aware that this IS NOT a ham band although several LF receiver manu-
facturers boast that their units can "receive the 1750-meter ham band".
You will not find discussion of this band in the ARRL publications

BECAUSE it is not a ham band. Perhaps some of the confusion here arises from the use by LF operators of ham radio callsigns. Many hams also operate in this band and use their own calls for identification, even though, as mentioned above, a callsign is not required here.

What is the frequency limits of this band? The 1750 meter band spans from 160 to 190 KHz.

What types of modulation may be employed? You may use CW and AM voice. You may be allowed others (FM, RTTY, etc). But the data I was able to gether was sketchy on this point. One person though said that there are no restrictions on modulation methods.

What are the legal power limits and other transmitter-related restrictions? Transmitter power is limited to somewhat less than one watt output. The maximum power INPUT to the final should not exceed one watt. The length of the antenna added to the length of the feedline MAY NOT exceed 50 feet. Spurious emissions outside the band must be 60db below the signal strength at the carrier frequency.

Who may use the band? Anyone, so long as they comply with the above regulations.

Where can I get more definitive and detailed information on this band? The band is discussed in Part 15 of the Code of Federal Regulations which you can pick up at your local library (assuming it is a fairly big library), or you can order it from the nearest US Government Bookstore. If anyone knows where such a store is, please post its location. I'd like to snag a copy of Part 15 myself.

Thanks to alan@dsd.es.com, kludge@grissom.larc.nasa.gov, kc2wz!bob%fdurt1@uunet.UU.NET, brown@hpspkla.spk.hp.com, markz@ssc.wa.com, and gary@ke4zv.uucp for all the information they provided.

Happy Lowfering! :-)

Date: 27 Jul 1994 21:33:48 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!usc!nic-nac.CSU.net!
charnel.ecst.csuchico.edu!olivea!korie1!male.EBay.Sun.COM!uranium!
raymonda@network.ucsd.edu
Subject: HISTORY OF 50 OHM COAX
To: ham-homebrew@ucsd.edu

```

... text deleted ...

.>
.>Microwave radar uses (and used) waveguide rather than coax, and WW II radar
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
.>advanced pretty quickly from the first 10 meter systems to 10cm systems.
.>The impetus was almost certainly the convenience of coax when you don't
.>have time to get everything right for balanced line. You can bury it,
.>run it through metal ducts, stomp on it, and generally mistreat it without
.>seriously impairing its performance; balanced lines require much more
.>care.
.>
... text deleted ...

```

Yes RADAR primarily uses waveguide for the microwave transmission lines, however if you've ever looked at one of those old WWII radar sets you'll see lots and lots of coax patch cords tying together all the rack mounted sub-assemblies and such.

In article <315s03\$am1@nyx10.cs.du.edu> rdavis@nyx10.cs.du.edu (Robert Davis) writes:

```
>drew@trl.oz.au (Drew Diamond) writes:
>>I would like to know more about this subject. If we look at radio text
>>books pre WW 2, coax hardly gets a mention, 600 ohm open-wire was all
>>the go. After WW 2 the books are full of coax. Was it simply the impetus
>of
>>war which pushed the use of coax? Or were there other factors?
>
>I don't have references available, but the word RADAR seems to me to be
>all the explanation needed for coax.
>And radar was a WW II invention.
>
```

Microwave radar uses (and used) waveguide rather than coax, and WW II radar advanced pretty quickly from the first 10 meter systems to 10cm systems. The impetus was almost certainly the convenience of coax when you don't have time to get everything right for balanced line. You can bury it, run it through metal ducts, stomp on it, and generally mistreat it without seriously impairing its performance; balanced lines require much more care.

Radar, incidentally, was not a WW II invention. Microwave radar, which permitted much more accuracy in ranging and much higher target resolution, was the real "secret weapon" but lower-frequency systems had been in use since the 1930s. It's just that they were so limited in capability that nobody gave them much credence.

-- Bruce KN6MN

Date: 28 Jul 94 08:05:43 GMT
From: news-mail-gateway@ucsd.edu
Subject: MGF1200
To: ham-homebrew@ucsd.edu

I have an old SSB electronics 2.3 GHz transvector. The front end FET is US so I need to replace it. The original design used an MFG1200. Now I don't seem to be able to find one of these. I have replaced it with an ATF10135, but I am experiencing instability as it has more HF gain. Would an MGF1302 be more appropriate? Alternatively, where can one find MGF1200s?

73 Mike G0MJW

Date: Wed, 27 Jul 1994 21:09:45 GMT
From: panix!zip.eecs.umich.edu!yeshua.marcam.com!news.kei.com!eff!news.duke.edu!godot.cc.duq.edu!nntp.club.cc.cmu.edu!casaba.srv.cs.cmu.edu!dolphin!ed@uunet.uu.net
Subject: Super CMOS keyer 2, Source code?
To: ham-homebrew@ucsd.edu

I am wanting to build a keyer. I saw in 94 ARRL handbook the super cmos keyer 2. It was based on a Mot microcontroller. It did not reference the software or source code for it, only where to get a preprogrammed chip. Is it available via any ftp sites or is it proprietary?

Has anybody done anything similar that is not proprietary?

Ed N3SD0
Ed@fore.com

Date: Wed, 27 Jul 1994 16:15:32 GMT
From: netcomsv!netcom.com!btoback@decwrl.dec.com
Subject: What is this HP Thinkjet IC ?
To: ham-homebrew@ucsd.edu

In article <CtJwwI.Muv@rivm.nl> charlos@rivm.nl (Charlos Potma) writes:
>I have built the loop antenna described in QST of May 94,
>(works fine btw, tunes from 14-24 Mhz)
>and want to add a stepper motor drive to tune the antenna.
>I have found an old HP Thinkjet printer that has just the
>stepper motor I need: it has a step size of 7.5 degrees
>and combined with a small 1:6 gearbox I have it should do
>allright.
>The stepper motor (used in the printer for paper-feed)
>is apparently controlled by an IC marked: 1858-0097-8610 .
>My question is: what is this IC ?. Is it a HP part number ?.
>Can anyone tell me what it is and what I can use to replace
>it with ?

You can call your local HP office to get the telephone number of
the European parts center -- I think it's in Boeblingen, Germany.
The parts center will be able to give you more information.

HP designs a lot of proprietary parts for their low-cost printers
in order to get the most use out of their mechanical parts. I'm not
sure about the paper feed stepper in the ThinkJet. If all else
fails, you could just leave the printer circuitry connected and
control your tuning capacitor with PCL. Heck, it'd be easy if you
get the gear ratios right: <esc>&a+5R to go up 5 KHz, <esc>&a-2R
to go down 2 KHz, etc. :-)

-- Bruce Toback
KN6MN

End of Ham-Homebrew Digest V94 #213
